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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,014

04/17/2006

Hidekazu Tanaka

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EXAMINER

DOERRLER, WILLIAM CHARLES

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

09/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,014	Applicant(s) TANAKA, HIDEKAZU	
	Examiner William C. Doerrler	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4-17-2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims, 1, 2, 3, 5 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kohler (5,343,709).

Kohler discloses a cryopump with a first stage panel and a heat shield (15) cooled by a first stage (33) of a cryogenic refrigerator and a second stage panel (17), with a sorbent (see line 37 of column 3), cooled by a second stage (37) of the cryogenic refrigerator. The cryopump has a notch (18) which allows for the entrance of gas molecules and an additional shield (35' or 43) preventing radiation through the notch (see line 56 of column 3). Figure 3 shows a convex C shaped shield to stop radiation through the notch. Line 51 of column 1 states that the device can be used in sputtering, which is known to be a method to produce semiconductors.

Claims, 1, 2, 3, 6, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Peterson (4,611,467).

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Peterson discloses a cryopump with a first stage panel (50) and a heat shield (34) cooled by a first stage (44) of a cryogenic refrigerator and a second stage panel (40), with a sorbent 41(see line 42 of column 1), cooled by a second stage (42) of the cryogenic refrigerator. The cryopump has a notch (38)which allows for the entrance of gas molecules and an additional shield (46) preventing radiation through the notch (see lines 6-12 of column 4). Radiation preventer 46 contains a cylindrical part perpendicular to opening 38 used to support the portion that is parallel to the opening 38. The cylindrical part is seen as a tubular shield as claimed in claim 6. In regard to claims 8 and 9, line 60 of column 1 states that the device can be used in sputtering, which is known to be a method to produce semiconductors.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4,5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson in view of Kohler.

Peterson discloses applicant's basic inventive concept, a cryopump with an opening in the heat shield with a secondary radiation shield to prevent radiation through the opening, substantially as claimed with the exception of using concave C shaped radiation shields. Figure 3 of Kohler shows this feature to be old in the cryopump radiation shield art. It would have been obvious to one of ordinary skill in the art at the

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time of applicant's invention from the teaching of Kohler to modify the cryopump of Peterson by using a C shaped radiation shield to assist in gas flow around the shield, while deflecting heat. In regard to the refrigerator having a horizontal configuration, Official Notice is taken that such an arrangement is well known in the cryogenic refrigerator art and as such would have been obvious to an ordinary practitioner in the art to enable a cryopump with a lower cryopanel.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Matte et al shows in figure 7, a cryopump with gas admitting openings in the heat shield. Lepofsky et al shows opening 116 which will permit gas to pass through the heat shield. Thibault and Kreisman show cryopumps.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Doerrler whose telephone number is (571) 272-4807. The examiner can normally be reached on Monday-Friday 6:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

William C Doerrler
Primary Examiner
Art Unit 3744

WCD

/William C Doerrler/
Primary Examiner, Art Unit 3744